

PRACTICE 5 KEY – LIMITING REACTANT

- 1) a) $\underline{2}\text{K} + \text{I}_2 \rightarrow \underline{2}\text{KI}$
b) I_2 (limiting reactant)
c) K (excess reactant)
d) 6.40 mol KI (produced)
e) 0.30 mol K (left over)
- 2) a) $\underline{5}\text{O}_2 + \underline{4}\text{P} \rightarrow \underline{2}\text{P}_2\text{O}_5$
b) O_2 (limiting reactant)
c) P (excess reactant)
d) 3.20 mol P_2O_5 (produced)
e) 0.60 mol P (left over)
- 3) a) $\underline{2}\text{H}_2 + \text{C} \rightarrow \text{CH}_4$
b) H_2 (limiting reactant)
c) C (excess reactant)
d) 3.5 mol CH_4 (produced)
e) 1.5 mol C (left over)
- 4) a) $\text{C}_{12}\text{H}_{22}\text{O}_{11} + \underline{6}\text{O}_2 \rightarrow \underline{12}\text{CO} + \underline{11}\text{H}_2\text{O}$
b) O_2 (limiting reactant)
c) $\text{C}_{12}\text{H}_{22}\text{O}_{11}$ (excess reactant)
d) 1.58 mol CO and 1.45 mol H_2O (produced)
e) 0.675 mol $\text{C}_{12}\text{H}_{22}\text{O}_{11}$ (left over)
- 5) a) $\text{C}_{12}\text{H}_{22}\text{O}_{11} + \underline{12}\text{O}_2 \rightarrow \underline{12}\text{CO}_2 + \underline{11}\text{H}_2\text{O}$
b) O_2 (limiting reactant)
c) $\text{C}_{12}\text{H}_{22}\text{O}_{11}$ (excess reactant)
d) 27.51 g CO_2 (produced)
e) 2.17 g $\text{C}_{12}\text{H}_{22}\text{O}_{11}$ (left over)